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A NEW SCIENTIFIC ARGUMENT FOR IMMORTALITY

NOTHING is borne in upon one with greater vividness and force at critical moments of his career than the vital and intimate way in which the events of his own personal experience are bound up with those of his fellows. Deeper than the feeling of individual isolation, poignant as that may be, is the sense of social solidarity which at such times appears either as an insurmountable barrier or as an infinite opportunity to the realization of the self.

This recognition of the social nature of experience, like its counterpart the clear consciousness of individuality, is a relatively late product of human civilization. The two ideas properly emerge together. But European ideals of culture have been so dominated for two centuries by an isolative conception of the self, that the truth concerning the fundamentally social nature of consciousness has been overshadowed by a narrow individualism. It is only beginning to be realized, in all its implications, that a sound theory of democracy, of moral freedom, and of immortality is bound up with a true understanding of the mutual relations of the individual and society.

Along with the individuation of society there takes place a corresponding socialization of consciousness in the self—and this, like everything else in nature, is an energic phenomenon. The so-called mental individuality of a self reflects the values of the social environment as the brain maps the progressive elaboration of sensory and motor adjustments which take place on the periphery of the organism. Personality and consciousness are not so bound up with the individual organism that other persons can not share in them, but constitute a social synthesis which, indeed, has no existence apart from individual persons, yet expresses relationships which extend beyond this. Consciousness is the center of social osmosis, developed in the individual at the points of attrition with other individuals, through which the social values find their way from self to self. It is the very essence of selfhood to be passed on to others; it is social. Therein lies its immortality, paradoxical as the statement may seem.

"The father who feels himself more mutilated by loss of wife and family than by loss of a limb does so, not because he is specially altruistic, but because his family is a far more vital part of his self than his limb."[1] If I have identified my self with the lives and interests of others, then my self can never die, because it is being propagated endlessly in the social chain of individuals which does not exclude but incorporates me.

This apparently denies personal and conscious survival after death. But that this is not the case will be seen by the consideration, which follows, of the relevant facts of biological and physical science. In spite of theological arguments from miracles and revelation and from the nature of God, intuitional arguments from innate ideas, ethical arguments from the nature and needs of man, idealistic arguments from the alleged priority and superiority of the spiritual, psychophysical arguments based on the apparent control of mind over matter, and arguments of the physical scientist based on the indestructibility of matter and the conservation of energy—in spite of all these arguments and others that might be mentioned, most persons find that their faith in a future life is a belief only, not a conviction. And why? Because the self for whose immortality they hope is an unreal abstraction. *The trouble is not that they believe in immortality, but that they are ascribing it to an impossible self.* The difficulty lies in the conception of personality. The self is conceived as a particularistic entity with barriers which keep it in inviolable isolation, independent of all outside influences, transcendent and self-sustaining. Its character is something sacred and incommunicable, something unique and unshareable, something even hostile in its native attitude toward the social environment. Such the self was conceived to be, at the time when the traditional doctrine of a future life was formulated. With such a conception it is impossible to state a rational theory of immortality. The water of Niagara is constantly changing, but the form of the cataract remains. The material substance of my body changes, but the continuity of my selfhood is recognizable through the changes. The individual has only a functional identity. Consciousness, *a* consciousness, *my* consciousness, like the moving picture in a kinetoscope, like a wave on the sea, like the vortex of a cyclone, has only a functional unity and continuity. Its individual *being* consists of what it persists in *doing*.

This problem is intimately connected, on the biological side, with the three facts of *birth, death,* and *sex.* Death is the precondition of life. The problems of degeneration and regeneration, of destruction and reproduction, are solved in the same breath. It is only the creature that is born that can die. Moners and amœbas are immortal, so Weismann tells us. They do not die because they never were born. They live on in new forms which result from the mere fission or division of the so-called parent cell. In gemmation, such as that seen in all plants and in many animals, we have the first step in the evolution of sex, and consequently in the evolution of death. Death enters "in connection with the alternation between two methods of reproduction and multiplication of life . . . in the course of the change from the sexual method of simple cell-division to the method of fertilization which, in time, comes to be nature's dominant method not only of preserving life, but also of giving it variety, richness, and plastic power of adaptation to different environments. With the rudiments of sex appear also the beginnings of death."[2] Professor Minot says: "Progress in age is accompanied by a gradually increasing specialization or organization of the parts." "It is natural to suppose that the two processes are connected. The supposition is confirmed by the observation that the less a tissue is specialized the more does it show traces of cell proliferation; while in the most highly specialized cells, no evidence of division can be found. Accordingly the conclusion is forced upon us that organization acts as an impediment to cell-division, and is, in fact, the direct cause of a loss in the power of growth, and since we may regard death as the final event, resulting from the loss of the powers of the individual, we reach, as our final conclusion, the theory that organization is the cause of natural death . . . evolved perhaps as the penalty or price paid by the higher organisms for the very possession of a higher organization."[3] Weismann says that the death of the somatic cells has been acquired by natural selection because of its utility to the race, while the germ-plasm is immortal. In other words, the death of the body as a somatic individual is for the sake of the larger future life or germinal immortality.

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[1] Mrs. Bosanquet, "The Standard of Life," p. 132.

But this need not mean annihilation. It may mean incorporation on a higher level. Life does not begin with a minimum of vitality, rise to a climax or maximum, and then decline again. The acme or climax is at the start, and life itself is a process of dying—a gradual loss of vitality. As Professor Howell says: "It is important to notice that these signs of deterioration in the machinery of life do not make their appearance first during or after the period of maturity, but begin to develop from the time of birth, or possibly before." "What we call the creative power of assimilation, which measures the capacity of living matter to form matter like itself, decreases steadily from birth. Like a stone projected upward, the initial velocity begins to fall from the outstart. As the height to which the stone travels may be taken as a measure of the force with which it was thrown, so the length of life in any individual may be taken as the measure of the power or capacity of assimilation with which the germ of that individual started its career. . . . The curve of vitality . . . does not rise from birth, reach its maximum in the vigor of maturity, and then fall in old age, but begins to fall steadily, though not uniformly, from the beginning of life."[4] Thus death is a process which is going on during what is popularly called the life of the individual, and the moment which is called death is but the culmination of a process which has in reality covered the whole period of life. Hence, it is literally true that "in the midst of life we are in death," or it would be truer to the facts to say that while still living death is in us. "The organism dies because it grows."

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[2] Smyth, "The Place of Death in Evolution," pp. 23–24.

[3] Quoted by Smyth from the "Reference Handbook of the Medical Sciences," Vol. IV., p. 399.

But if biological science compels us thus to interpret life in terms of death, it equally opens up *the possibility of interpreting what we call death in terms of life.* Man is as immortal as the moner. Before the life of a child commenced, it was part of its parents, and its existence now is nothing biologically but an outgrowth and a continuation of their lives. What difference whether it be the entire organism that is perpetuated by self-division, or certain selected life-bearing cells? An organism is nothing but a center or focus through which the world energy operates. The body of a man as well as of a moner undergoes complete change of its constituent elements in a lifetime, if not oftener. What matter, then, that the irrelevant somatic portion is lost in what we call death? It is occurring every day in the loss of epidermal cells which are rubbed off by friction with the environment.

The only immortality that is possible in any case is the immortality of function. Individuality has been defined as the "persistent realization of a particular type of structure." But what is this "persistent realization"? Not a persistence of the constituent elements of the tissues or cells. It is the persistence of a use, of a function, of a form or mode of behavior. A boy loses the blade from his jack-knife and puts in a new one. Yet he speaks of it as the same knife. He then loses the handle and gets a new handle. Still he speaks of it as the same knife. But suppose now that he finds the old blade and handle—what knife would that be? it has been asked. It would indeed be the old knife, his knife, the knife he had lost. But it would not be the same knife it would have been had it continuously fulfilled the function of a knife. A knife whose blade or handle is in the bottom of the sea is not a knife. The essence of ''knife'' is the function of cutting.

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[4] "Reference Handbook of the Medical Sciences," Vol. IX., Supplement, p. 207.

My body has changed completely since I was a boy, yet I have not forgotten things that happened when I was a boy and I claim to be the same person to whom these things happened. The scar on my arm where I was vaccinated twenty years ago still remains though the flesh has been renewed many times in the interval. What persists is the continuity of function, the form of activity, of this organism. This is what I mean by my self and it is this which is immortal. What difference does it make whether in what we call death I lose a single superficial cell of the epidermis, or in the life-long period of growth which, as we have seen, is at the same time a descent to death, I lose all these somatic cells, if meanwhile I have perpetuated my life as a continuous function into other modes of being?

By means of an application of the kinetoscope to the life of growing plants the normally slow processes of development are condensed into a few moments and we behold a grain of wheat swell, burst into life, put forth a shoot, and by stages before our very eyes develop to maturity, ''first the blade, then the ear, and after that the full corn in the ear.'' Now suppose the life of a human being to be portrayed in like manner by telescoping into a few minutes its development from the germ to old age and death. We might conceivably then witness its transformations from the moment when the ovum is quickened into life by the sperm until by successive metamorphoses it develops into a sentient creature. We might follow it through that marvelous embryonic drama wherein it recapitulates the evolution of the race until at last it takes on the human form. We might see the helpless embryo thrust into an outer environment where it must cry and fight its way into a clear consciousness of its own individuality. Sôon speech breaks forth in a gradual definition of homogeneous primary babblings. We see it struggle up to the erect stature. We behold the evolution of the hand and the coordination of sensory and motor functions for the higher uses of intelligence. Finally the child comes to full self-consciousness in some assertion of its own personality in the social whole: I am I and thou art thou. We see this human life mature, strive, think, laugh, love, win in the struggle for the highest and the best! We also see the powers wane, the limbs grow feeble, the eyes grow dim, speech falter, the health and zest of life vanish gradually as they came, as a wave rises to a crest and then sinks away into the indistinguishable expanse of the sea. We call this death.

But does death end all? What is death? The answer is found in understanding what is meant by birth. Birth is this life-long redistribution of substance or energy to serve the new purpose. Death, like birth, is a process, not an event. It is merely the negative phase of a rebirth into a higher and different sphere. When the individual wave recedes into the depths of the ocean does it lose its reality and identity? In one sense, yes. In another sense, no. It has entered into the very substance and form of myriad other waves. The seed in a sense loses its individuality when it germinates, but in another sense this is the fullest realization of the seed. The grain of wheat may not live except it die. When the mother lives her life physically and spiritually into her child she does not lose her own individuality. It is only thus that for the first time she fully realizes it. By living my life into the lives of others I do not thereby lose my selfhood; I find it. Individuality is achieved not by isolation, but by coalition; not by abstraction, but by identification. The law of the realization of the highest type of selfhood is a social law. The most complete individuality means the greatest capacity for socialization of one's consciousness. This is not self-immolation, but the very culmination of selfhood.

A man is immortal when he has won survival value in the social evolution of his own consciousness, when he has lived himself so completely into the lives of others that the interests and values of his own life are only realized by being identified with theirs. His immortality is their life. The future life is not an everlasting existence of isolated selves. It is a social achievement. *"Natural selection cares naught for the individual but only for the species, it is said. Then identify yourself with the species"* (C. L. Herrick).

So far we have been considering the biological aspects of the problem. What is called the death of individuals is not, we have seen, incompatible with their functional immortality. But this must not be confounded with the "immortality of influence" theory, to which it bears a superficial resemblance. It is an individual and personal immortality in the only sense in which these words have a defensible meaning—viz., the persistence of a definite mode of function or behavior. At this point biology has much to learn from recent physics, and the new light it throws upon the doctrine of the conservation and interconvertibility of energy.

This question of immortality ultimately involves the problem of origins—whether anything absolutely new ever comes into existence and whether anything ever really ceases to exist. We experience transformation, redistribution of matter, interconvertibility of energy, on every side. But is matter or energy ever absolutely created or destroyed? Science answers in the negative. If we accept the conservation doctrine, then, the substance of our being can never perish. The inquiry reduces, therefore, to *the question whether and in what sense the forms or values of things are conserved.* In the death of an organism we seem to see the form destroyed while the matter or material which composed it persists in other forms. To dust it returns. But even dust has form. The same question breaks out in the so-called inorganic realm. Does redistribution there signify further degradation of form? Must there not be at last a point where form as well as substance is conserved? If we answer in the negative we are involved in the absurdity of a matter wholly without form, a substance devoid of attributes. If we admit the conservation of form we have introduced a principle in the light of which the whole problem of death and immortality must be restated.

The truth seems to be that a doctrine of absolute persistence or eternity of matter is no more intelligible than a doctrine of absolute evolution or creation. Variability of phenomena is as familiar a fact as their uniformity. We have to admit the facts both of permanence and of change. The conservation doctrine as usually stated is suicidal. It maintains that the sum total of matter or energy is constant in amount, the only changes being in the forms of things. There is quantitative identity, but qualitative diversity. But this not only is contrary to the facts; it is inherently unintelligible. There is no such thing as mere quantitative identity. It is a contradiction in terms. The only universe of which this could be true would be one with no qualitative differences within it. When I say that the amount of energy represented in the fuel has its equivalent in the heat, gases and ash left after combustion, my statement comes simply to this: that, setting aside the qualitative differences between one form of energy and another, one is the same as the other. But, apart from these very qualities, it is impossible to distinguish two portions of even the same kind of energy. They must be spatially or temporally or causally or logically discrete, and such discreteness introduces qualitative difference. It is impossible to say that two things are the same without implying a reference to their common qualities or attributes. To say that two things are quantitatively identical, strictly speaking, is to say that they are not two things at all, but one. Quantitative identity, in other words, is identity which destroys the differences; it is purely abstract or formal. The only identity which we experience in our actual world is identity in diversity, unity in variety, permanence in change. There can be no conservation or persistence of matter or energy apart from the persistence of its qualitative characters or forms. To say that the energy of the universe is constant in amount is simply saying that the universe is what it is and can not become what now it is not—a proposition manifestly false since at this moment my present feeling is a unique fact which never before has been and which, therefore, is some slight addition to the sum total of reality. In short, quantitative identity implies persistence of personal qualities or values, and the admission of the latter anywhere in nature opens the door for its possibility everywhere.

Applying this to the question of immortality, the truth is that the organic and inorganic are interdependent terms. This distinction, like others that might be mentioned, is one which is set up within experience, not a distinction between our experience which is organic and something inorganic outside of our experience. Anything becomes organic when it enters in an intimate way into a certain type of activity. To draw a rigid line and say that the pen I hold in my hand as I write these words is inorganic while the horny tissue which I snip from my finger-nail is organic is to turn a useful abstraction into a fetish. The universe is a continuous and unitary dynamic system, and this distinction expresses a fact which is true only from the point of view from which the distinction is made. The principle of the conservation of form, if true for the inorganic world, is true for the organic world as well. A mode of activity, a value, once come into being, can not perish. It may be transformed. It must be transformed in order to endure, since the essence of being is in becoming. But this transformation can not mean its destruction, for this would mean the annihilation of reality. *Instead of the scientific doctrine of conservation militating against the possibility of immortality, when correctly construed it is its best advocate.*

There is just as good reason for regarding the redistribution of energy which takes place in the life-long dying of an organism as a transformation to a higher level as to regard it as a degradation to a lower level of being. How this may be in detail we may not at present be able to say, but it is quite possible that, as Professor Herrick has said, "other intelligences may even now be walking undisturbed through our physical bodies, living and moving in a medium of which we may be entirely unconscious as we are demonstrably unconscious of myriads of other waves and media."

The ordinary assumption of science is that the most complex organizations are the most unstable and therefore transient. But the very opposite is probably true. The more complex an organization the greater the range of its relations and consequently the less dependent is it upon any single relation for its continued existence.

The complexity of the human individual, in both his physical and his mental aspects, is the best presumptive evidence for his survival of what is called bodily death. *The strongest argument for future existence is present existence.* The very fact that we are alive now is the best evidence that we will continue to live after death. Energy is not conserved in the abstract, but in individual modes or forms. And where should this take place if not in the highest manifestations? It is as true of the universe at large, as it is of society, that it comes to itself only in its individual expressions. Reality is real and can continue to be real only as expressed in specific and concrete form.

A study of the modes of organization in nature reveals the fact that there is a progressive series of successively higher types of equilibrium. In living matter the type of coordination is more extensive and complicated than in the so-called inorganic sphere. The equilibrium is relatively more perfect and tends to be self-perpetuating. Grades or stages of consciousness are apparently expressions of still higher forms of coordination, developing within the vital series, yet in important respects suggesting a new range of phenomena. There is nothing to prove that consciousness need be restricted to association with the individual organism with which it is now connected, at least in its present form. It is conceivable that the progressive differentiation of consciousness should connect itself with other forms of energy, and that the self-perpetuating function already possessed in a measure by living organisms should be indefinitely increased by a still higher synthesis. Consciousness may be bound up with supersensible forms of matter not dissolvable at death. "Even if the cortical equilibrium is disturbed and 'the house of this tabernacle be destroyed,' the reflex of its past is perfectly held in some higher synthetic construction, so that the individual remains conscious and actively cooperates in all subsequent currents of evolution."[5]

If, as the recent intra-atomic physics seems to suggest, there are still more subtle modes of energy pervading nature than those we have recognized in our chemistry and physics; if there is a universe within the atom itself, whose forces drift unhindered through the opaque objects of the sensible world on their errands of cosmic transformation—why may it not be that these heretofore imponderable energies are the reality of what we have vaguely relegated to the occult realms of life and mind? If this should be the case, the apparently insuperable obstacle which science hitherto has opposed to a belief in immortality is removed: the seeming destruction at death of that form or mode of energic synthesis which constitutes what we call the personality of the individual. But if, as we have seen, life and death are processes and not terminal events; if death, like birth, covers the entire period of what is called life; if, in short, disorganization and decay are the essential conditions of progressive organization and individuation—is it not possible that this life-long drama of destruction is really the obverse side of a constructive synthesis of personality whose pattern may only be made out in that world of intangible and invisible forces which science is only just beginning to glimpse in the fluoroscope?

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[5] C. L. Herrick.

We have often seen on a country road in the summer time a little vortex of dust spinning along, maintaining an individuality of its own, although the particles that are sucked into the cyclonic whorl are being continually cast aside as the apparition glides along. Now suppose this center of vector motion to rise into the air. It vanishes from sight. But there is no reason to suppose that it loses its individuality because we can no longer see the whirling leaves and dust. Similarly in the case of the organism: because in death the vortex of equilibrating forces which gave individuality to the bones and muscles and nerves has risen into the more rarefied atmosphere of an intangible and invisible realm of nature's forces, leaving behind its fugitive freight of decaying protoplasm, is no reason for denying that the form of activity is going on building for itself such an individuality as its intrinsic conditions may determine.

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CRITICAL REALISM AND THE TIME PROBLEM. I

THE time problem always furnishes a severe test for any philosophical position. If critical realism is able to give a definite and fairly simple solution of the metaphysical difficulties associated with time, this achievement will be decidedly in its favor. My approach will be both direct and indirect. I shall attempt, first, to disclose the inability of idealism to cope with the problem and, thereupon, I shall seek to indicate the answer of critical realism.

Men have constantly felt that the conclusions of geology and of astronomy in regard to the early history of our world were contradictory to idealism. When we are naturalistic in our outlook and leave any supposed Absolute or God out of the case, the trouble we encounter, as idealists, is obvious. Granted finite experience to be reality, what can be the meaning of the assertion that the world existed before there were any experiencers? Now science does